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PP-36

Echo Group L.P. ("Echo"), by its attorneys, hereby submits this Reply to the "Formal Opposition and Reply Comments" filed by Mobile Telecommunication Technologies Corp. ("Mtel") and the "Reply Comments" filed by PageMart, Inc. ("PageMart") against Echo's above-captioned Request for Pioneer's Preference.

Mtel asserts that Echo does not deserve a pioneer's preference for a license in the 930-931 MHz band because its mobile data radio service ("MDRS") technology was developed for the 220-222 MHz band and then simply "adapted" for use at 930-931 MHz. See Mtel Formal Opposition at 5. Mtel's theory is blatantly wrong. As is evident from the "MDRS Progress Report" Echo filed on June 1, 1992 as part of its demonstration of MDRS's technical feasibility, MDRS was specifically developed and tested at the 800 MHz and 900 MHz bands. Thus, although Echo has also sought to license its breakthrough tech-

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nique for "bursty" data transmissions in the 220-222 MHz band for additional applications,* the technology was developed principally for the provision of two-way mobile data services in the 900 MHz range.**

II. PageMart Has Failed to Raise Any Technical or Other Impediments to Echo's Pioneer's Preference

In addressing Echo's Progress Report, PageMart alleges only that MDRS is essentially a cellular technology which has been rejected by cellular carriers. PageMart Comments at 28. PageMart's characterization, however, greatly oversimplifies MDRS, and PageMart's failure even to attempt to address the technical specifics of Echo's proposal evidences the validity and integrity of the MDRS technology.***

* See Echo Reply Comments at 10 n.** (filed June 16, 1992).

** Echo also notes that Mtel also has applied for a license at the 220-222 MHz band. Thus, if Mtel's argument were meritorious, it would apply equally to its own request for a pioneer's preference (PP-37).

*** PageMart's assertion that MDRS should not be eligible for a pioneer's preference because it has been in development for several years and has not been implemented by a cellular operator is ludicrous. PageMart Comments at 28-29. The fact that MDRS has been and is being tested demonstrates the commitment of its developer. Moreover, it is feeble-minded to posit that an emerging technology is not innovative or has no application simply because users of another technology have not adopted it, particularly prior to its final development. MDRS is primarily designed for "bursty" data communications. Cellular, however, is primarily a voice service for which data has only recently been proposed as an "overlay" on the outer portion of the cellular frequencies' bandwidth. Whether or not cellular carriers choose to select such a new, potentially competing technology (Footnote continued)

Like cellular, MDRS would be a wireless mobile service utilizing frequency reuse, but there the similarity between it and cellular ends. As discussed more fully in Echo's Reply Comments in this proceeding, MDRS equipment is significantly different than cellular equipment.* Both base station and end user MDRS equipment will use digital techniques for data delivery rather than analog techniques for voice delivery. Moreover, MDRS end user equipment is not frequency synthesized. Unlike cellular, the end user unit design is also simplified to incorporate all data processing, tuning, synchronizing, error checking, and data flow management into a single custom gate array chip and microprocessor with a combined cost of under \$10. User units will also use inexpensive crystals corrected by automatic frequency control (AFC) for frequency reference. These techniques greatly reduce the cost and increase the efficiency of MDRS equipment compared with cellular CPE. Further, MDRS transmission facilities include miniaturized base station equipment that use a patented single-bit "Status Request" process to facilitate throughput of "bursty" data.

(Footnote *** continued from previous page)
ogy is irrelevant to Echo's efforts or its Request. In fact, if such facts were relevant, no pioneer's preferences would be necessary since pioneers like Echo would simply be relegated to "selling out" to larger, existing service providers.

* See Echo Reply Comments at 4-5.

Finally, Echo's technology creates vast differences in the modes of operation between MDRS and cellular.* MDRS is designed for delivery of "bursty" data messages and would require only 300 KHz for six licensees. It combines (1) very narrow channels, (2) spectrum reuse, (3) elimination of the extra data transmission associated with existing, less efficient data protocols ("overhead"), (4) data management that efficiently combines different classes of data, and (5) continuous one-bit "Status Requests" between the transmitter and portable units to handle "bursty" data.** Thus, MDRS is able to deliver more bits of information in less spectrum than paging or other existing wireless delivery services.

III. Conclusion

MDRS is an innovative, advanced two-way, real time data transmission technology unlike existing cellular and paging technologies. It can economically and efficiently provide the fully duplexed two-way service it was designed for and at the same time accommodate traditional one-way paging or paging/acknowledgement services. Further, neither Mtel, PageMart nor any other party has

* This also affords MDRS much more capacity than alphanumeric paging, contrary to PageMart's assertions. PageMart Comments at 29. See Echo Reply Comments at 6 (filed June 16, 1992); MDRS Progress Report at Section 4 (filed June 1, 1992) (demonstrating MDRS's greater capacity for paging services than current paging technologies).

** See Echo Reply Comments at 5-6, 16-18.

shown that Echo is not deserving of a pioneer's preference. Echo has demonstrated the technical feasibility of MDRS, an innovative new technology which will provide new and improved low cost services to the public. Its versatility, flexibility and low cost mark MDRS as a major technology for the future. Echo requests that the Commission grant its Request for a Pioneer's Preference at this time.

Respectfully submitted,

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CERTIFICATE OF SERVICE

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